

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/689,982

Confirmation No.: 8969

Applicant: LaColla *et al.*

Filed: October 21, 2003

TC/AU.: 1614

Examiner: To be assigned

Docket No.: 06171.105003 IDX 1003 CON US

Customer No.: 20786

Title: Substituted 6 Benzyl-4-Oxopyrimidines, Process for Their Preparation and Pharmaceutical Compositions Containing Them

Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450

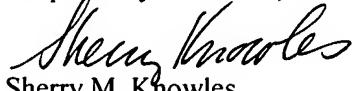
**Transmittal of Information Disclosure Statement**

Sir:

The citation of information on the attached Form PTO-1449 is made pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98. Copies of references AB, AC, AD, AF, AI, AJ, AK, AL, AR, BA, BF, BH, and CF are enclosed; copies of the remaining references were cited in the parent application U.S.S.N. 09/744,038, which issued as 6,635,636 on October 21, 2003. The Examiner's attention is also drawn to copending application U.S.S.N. 10/409,341. The citation of this information does not constitute an admission of priority or that any cited item is available as a reference, or a waiver of any right the applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

Because this Information Disclosure Statement is being submitted before the mailing of a first Office action on the merits, the Applicants do not believe that any additional fees are due; however, the Commissioner is hereby authorized to charge any fees due or credit any overpayment to Deposit Account No. 11-0980.

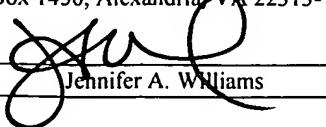
Respectfully submitted,

  
Sherry M. Knowles  
Reg. No. 33,052

King & Spalding, LLP  
191 Peachtree Street, N.E., Atlanta, GA 30303  
Office: (404)572-4600/ Fax: 404-572-5145

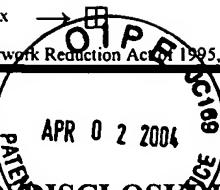
**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on March 31, 2004.

  
Jennifer A. Williams

3445275\_1.DOC

Please type a plus sign (+) inside this box



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				<i>Complete if Known</i>	
				Application Number	10/689,982
				Filing Date	October 21, 2003
				First Named Inventor	LaColla <i>et al.</i>
				Group Art Unit	1614
				Examiner	Unassigned
Sheet	1	of	3	Attorney Docket Number	06171.105003 IDX 1003 CON

3445054\_2.DOC

## U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pgs, Clmns, Lns, Where Relevant Passages/Relevant Figs Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA	3,956,302	A	Hunter <i>et al.</i>	05-11-1976	
	AB	5,747,500	A	Son <i>et al.</i>	05-05-1998	
	AC	5,914,402	A	Choi <i>et al.</i>	06-22-1999	
	AD	5,998,411	A	Vig <i>et al.</i>	12-07-1999	
	AE	6,117,904	A	Murphy <i>et al.</i>	09-12-2000	
	AF	6,136,335	A	Uckun <i>et al.</i>	10-24-2000	
	AG	6,177,437	B1	Wright	06-23-2001	
	AH	6,376,504	B1	Uckun <i>et al.</i>	04-23-2002	
	AI	2002/0193415	A1	LaColla <i>et al.</i>	12-19-2002	
	AJ	6,545,007	B1	Sommadossi <i>et al.</i>	04-08-2003	
	AK	6,635,636	B1	LaColla <i>et al.</i>	10-21-2002	
	AL	2003/0225114	A1	Sommadossi <i>et al.</i>	12-04-2003	

## FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T 6
		Office <sup>3</sup>	Number	Kind Code <sup>2</sup> (if known)				
	AM	EP	0,469,685	A1	Shell Int. Res. Maatsch., (Carter <i>et al.</i> , <i>Chem. Abstr.</i> , 116:194341)	02-05-1992		
	AN	WO	91/18887	A1	Smith-Kline Beecham (Ife <i>et al.</i> , <i>Chem Abstr.</i> , 116:128961)	12-12-1991		
	AO	WO	92/16201	A1	E.B. Michaels Res. Assoc. Inc.	09-12-2000		
	AP	WO	95/18109 (PCT/KR94/00178)	A1	Korea Res. Inst. of Chem. Techn.	07-06-1995		
	AQ	WO	97/43266 (PCT/KR97/00084)	A1	Korea Res. Inst. of Chem. Techn.	11-20-1997		
	AR	WO	97/44342 (PCT/KR97/00074)	A1	Korea Res. Inst. of Chem. Techn.	11-27-1997		
	AS	WO	00/03998	A1	Novirio Pharmaceuticals (Idenix)	01-27-2000		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → 

Submitted for form 1449/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

Complete if Known

Application Number

10/689,982

Filing Date

October 21, 2003

First Named Inventor

LaColla *et al.*

Group Art Unit

1614

Examiner

Unassigned

Sheet 2 of 3

Attorney Docket Number 06171.105003 IDX 1003 CON

3445054\_2.DOC

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 6
	BA	AROYAN, A.A., <i>et al.</i> , "Pyrimidine derivatives. Substituted 6-(4'-alkoxybenzyl)pyrimidines," <i>Arm. Khim. Zh.</i> , 24(2):161-166 (1971), provided as <i>Chem Abstr.</i> , 75:49022.	
	BB	ARTICO, M., "Non-Nucleoside Anti-HIV-1 Reverse Transcriptase Inhibitors (NNRTIs): A Chemical Survey From Lead Compounds to Selected Drugs for Clinical Trials," <i>II Farmaco</i> , 51:305-331 (1996).	
	BC	ARTICO, M., <i>et al.</i> , "3,4-Dihydro-2-alkoxy-6-benzyl-4-oxopyrimidines (DABO's): A new class of specific inhibitors of human immunodeficiency virus Type 1," <i>Antiviral Chem. Chemother.</i> , 4(6):361-368 (1993).	
	BD	BABA, M., <i>et al.</i> , "Preclinical evaluation of MKC-442, a highly potent and specific inhibitor of human immunodeficiency virus type 1 in vitro," <i>Antimicrobial Agents &amp; Chemother.</i> , 38(4):688-692 (April 1994).	
	BE	BALZARINI, J. <i>et al.</i> , "Human immunodeficiency virus type 1 drug-resistance patterns with different 1-[(2-hydroxyethoxy)methyl]-6-(phenylthio)thymine derivatives," <i>Molecular Pharmacology</i> , 44(4):694-701 (October 1993).	
	BF	BALZARINI, J. <i>et al.</i> , "Marked inhibitory activity of non-nucleoside reverse transcriptase inhibitors against human immunodeficiency virus type 1 combined with (-)2',3'-dideoxy-3'-thiacytidine," <i>Molecular Pharmacology</i> , 49:882-890 (1996).	
	BG	BOTTA, M., <i>et al.</i> , "Synthesis, antimicrobial and antiviral activities of isotrimethoprim and some related derivatives," <i>Eur. J. Med. Chem.</i> , 27:251-257 (1992).	
	BH	BROWN, T., <i>et al.</i> , "Isocytosine H2-receptor histamine antagonists. I. Oxmetidine and related compounds," <i>Eur. J. Med. Chem.</i> , 23(1):53-62 (1988), provided as <i>Chem Abstr.</i> , 109:210995.	
	BI	COSTI, R., <i>et al.</i> , "Structure-activity relationship studies on potential non-nucleoside DABO-like inhibitors of HIV-1 reverse transcriptase," <i>Antiviral Chem. Chemother.</i> , 11(2):117-133 (2000).	
	BJ	FENNER, H. <i>et al.</i> , "Pyrimido(5,4-B)quinolines," <i>Arch. Pharm.</i> , 311(2):115-125 (1978) (Abstract only; <i>Chem Abstr.</i> , 88(21):152555q).	
	BK	LIU, X.Y., <i>et al.</i> , "Synthesis and interferon-inducing activity studies on the antiviral compounds of 2,5,6-trisubstituted-4(3H)-pyrimidine derivatives," <i>Yaoxue Xuebao</i> , 29(2):153-157 (1994), shown as <i>Chem. Abstr.</i> , 121:108682.	
	BL	MAI, A., <i>et al.</i> , "5-Alkyl-2-alkylthio-6-(2,6-dihalophenylmethyl)-3,4-dihydropyrimidin-4(3H)-ones," <i>J. Med. Chem.</i> , 42(4):619-627 (February 25, 1999).	
	BM	MAI, A., <i>et al.</i> , "Dihydro(alkylthio)(naphthylmethyl)oxopyrimidines: novel non-nucleoside reverse transcriptase inhibitors of the S-DABO series," <i>J. Med. Chem.</i> , 40(10):1447-1454 (May 9, 1997).	
	BN	MAI, A., <i>et al.</i> , "Synthesis and anti-HIV-1 activity of thioanalogues of dihydroalkoxybenzyloxypyrimidines," <i>J. Med. Chem.</i> , 38(17):3258-3262 (August 18, 1995). XP000578131.	
	BO	MASSA, S., <i>et al.</i> , "Synthesis and antiviral activity of new 3,4-dihydro-2-alkoxy-6-benzyl-4-oxopyrimidines," <i>Antiviral Chem. Chemother.</i> , 6(1):1-8 (1995). [ <i>Chem. Abstr.</i> 122(1):122513c (1995)].	

Examiner Signature		Date Considered
--------------------	--	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → 

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				<i>Complete if Known</i>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				Application Number	10/689,982
Sheet	3	of	3	Filing Date	October 21, 2003
				First Named Inventor	LaColla <i>et al.</i>
				Group Art Unit	1614
				Examiner	Unassigned
				Attorney Docket Number	06171.105003 IDX 1003 CON

3445054\_2.DOC

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	CA	NIZI <i>et al.</i> , "Solid phase synthesis of 2,6-disubstituted-4(3 <i>H</i> )-pyrimidinones targeting HIV-1 reverse transcriptase," <i>Tetrahedron Letters</i> , 39:3307-3310 (1998).	
	CB	SBARDELLA, G., <i>et al.</i> , "Does the 2-methylthiomethyl substituent really confer high anti-HIV-1 activity to S-DABOS?" <i>Med. Chem. Res.</i> , 10(1):30-39 (2000).	
	CC	SBARDELLA, G., <i>et al.</i> , "Structure-activity relationship studies on new DABOS: effect of substitutions at pyrimidine C-5 and C-6 positions on anti-HIV-1 activity," <i>Antiviral Chem. Chemother.</i> , 12(1):37-50 (January 2001).	
	CD	TANAKA, H., <i>et al.</i> , "Synthesis and antiviral activity of 6-benzyl analogs of 1-[(2-hydroxyethoxy)methyl]-6-(phenylthio)thymine (HEPT) as potent and selective anti-HIV-1 agents," <i>J. Med. Chem.</i> , 38(15):2860-2865 (July 21, 1995).	
	CE	TRAMONTANO, E., <i>et al.</i> , "Characterization of the anti-HIV-1 activity of 3,4-dihydro-2-alkoxy-6-benzyl-4-oxopyrimidines (DABOs), new non-nucleoside reverse transcriptase inhibitors," <i>Microbiologica</i> , 17(4):269-279 (October 1994).	
	CF	WAGLE, M.V., <i>et al.</i> , "Tumor inhibitory studies on pyrimidines. I. 2-Amino-4-hydroxy-5-(β-hydroxyethyl)-6-(alkyl or aryl)pyrimidines," <i>Proc. Indian Acad. Sci., Sect. B</i> , 70(1):9-14 (1969), provided as <i>Chem Abstr.</i> , 71:111298.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.